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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,699	03/01/2002	Kou-Joan Cheng	08919-074001	4883
26161	7590	03/28/2006	EXAMINER	
FISH & RICHARDSON PC			NAFF, DAVID M	
P.O. BOX 1022			ART UNIT	PAPER NUMBER
MINNEAPOLIS, MN 55440-1022			1651	

DATE MAILED: 03/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/087,699

Applicant(s)

CHENG ET AL.

Examiner

David M. Naff

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-6 and 8-26 is/are pending in the application.
- 4a) Of the above claim(s) 11-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-6 and 8-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

**DETAILED ACTION**

The final rejection of 11/15/05 is withdrawn, and prosecution on the merits is reopened applying new prior art.

Tsung-Yin Tang has been removed as an inventor as requested by  
5 the request for correction of inventorship under 37 C.F.R. § 1.48(b) of 3/13/06.

The amendment of 3/13/06 has been entered, and claims 2 and 7 canceled.

Claims in the application are 1, 3-6 and 8-26.

10 Claims 11-26 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 12/15/04.

Claims examined on the merits are 1, 3-6 and 8-10.

15 The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC § 103***

Claims 1, 3-6 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cole (4,320,151) in view of Boinot et al  
20 (2,529,131) and Bass (3,983,255) and De Sa et al (4,337,123), and if necessary in further view of Heikkila et al (5,730,877) (all newly applied).

The claims are drawn to a composition containing a thermolabile protein, which can be an enzyme, admixed with a liquor waste.

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Cole discloses increasing thermal stability of amylase by adding the enzyme to a concentrated sugar solution (col 6, lines 8-15).

Solutions of 40-60% sucrose, dextrose, fructose, invert syrup and corn syrup protected amylase at 170° F and 180° F (col 8, lines 45-68 and  
5 Table 9, col 9). Cole further discloses that it had been previously found in that prior art that 20-40% sucrose increased enzyme activity at 63° C (about 145° F) (col 4, lines 59-62).

Boinot et al disclose that vinasse (residue from distilling to produce alcohol that is a waste) (col 1, line 28) contains  
10 unfermentable sugar (col 1, lines 9-33), and converting the unfermentable sugar to fermentable sugar (col 3, lines 48-61, and col 4, lines 33-38).

Bass discloses concentrating vinasse (molasses fermentation residues after distilling that is a waste) (col 1, lines 25-30) to 75-  
15 80% solids and drying the concentrate (col 3, line 44 and lines 55-58) for use in animal food or fertilizer.

De Sa et al disclose that vinasse is a waste, which disposing of is a problem (col 1, line 20 to col 2, line 14).

Heikkila et al disclose that vinasse can be fractioned to obtain  
20 fractions rich in sucrose (col 1, lines 23-25).

It would have been obvious to use vinasse to supply the sugar in the sugar solution that amylase is added to stabilize the amylase during heating as disclosed by Cole as suggested by Boinot et al and Bass, and if needed Heikkila et al, disclosing that vinasse contains  
25 sugar, and can be concentrated and dried, and as further suggested by

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De Sa et al disclosing that disposing of vinasse is a problem, and finding a use for vinasse will be of benefit. Vinasse is a liquor waste and mixing vinasse with the amylase of Cole will result in a composition as presently claimed. The waste liquors of claims 3-5  
5 would have been suggested by De Sa et al disclosing fermentable plant materials including sorghum and hydrolyzed cellulosic materials that can be used in processes resulting in vinasse (col 2, lines 45-55).

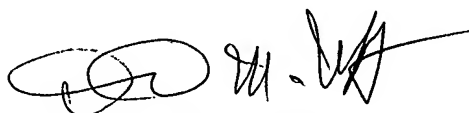
**Conclusion**

Any inquiry concerning this communication or earlier  
10 communications from the examiner should be directed to David M. Naff whose telephone number is 571-272-0920. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Wityshyn can be reached on 571-272-  
15 0926. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David M. Naff  
Primary Examiner  
Art Unit 1651

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DMN  
3/23/03